



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : A61F 5/455</p>	<p>A1</p>	<p>(11) International Publication Number: WO 00/15166</p> <p>(43) International Publication Date: 23 March 2000 (23.03.00)</p>
<p>(21) International Application Number: PCT/IB99/01517</p> <p>(22) International Filing Date: 7 September 1999 (07.09.99)</p> <p>(30) Priority Data: PE98U000021 11 September 1998 (11.09.98) IT</p> <p>(71) Applicant (for all designated States except US): DI GIACOMO QUIRINO & C. S.N.C. DEI F.LLI DI GIACOMO ROBERTO & PIERINO [IT/IT]; Via Ciattoni, 12, I-65125 Pescara (IT).</p> <p>(72) Inventor; and</p> <p>(75) Inventor/Applicant (for US only): DI GIACOMO, Roberto [IT/IT]; Via Ciattoni, 12, I-65125 Pescara (IT).</p> <p>(74) Agent: MAROSCIA, Antonio; Fenzi & Associati, Via Saval, 25, I-37124 Verona (IT).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>
<p>(54) Title: A DISPOSABLE FUNNEL-LIKE URINARY DEVICE FOR USE BY A STANDING FEMALE</p> <p>(57) Abstract</p> <p>A disposable funnel-like urinary device comprising a punched sheet (1) of a relatively flexible, although stiff to such an extent as to keep its shape, paper material including: a first and second pair of substantially identical normally flat sections (3, 4; 8, 9), a relatively small side wing (15) extending along at least a portion (8a) of one of said second pair of flat sections and securing means for fixing said side wing to obtain a foldable funnel-like arrangement which in its erected condition constitutes a tubular exhaust duct having a major proximate anatomic urine receiving end designed to be applied around a urinary tract of a standing female user and a smaller distal urine draining end.</p>		

A disposable funnel-like urinary device for use by a standing female

The present invention relates to a disposable funnel-like urinary device for use by a standing female.

5 A number of urinary devices for females are known in the art which are made of a liquid-resistant material, e.g. a punched cardboard, that is made available in the form of a flat-folded item to be unfolded and erected to provide a urine exhaust conductor to be applied with one larger end thereof around the urinary tract of a standing female user, thereby providing a urine exhaust duct arranged to direct
10 urine stream falling away from the standing user at its other, usually narrower, end.

Most of the known urinary devices have failed to meet market demand in that either they are supplied in flat-folded configuration, but lack of proper handling attachment for easy and firm grip, or they possess handling lugs, but the flat blank, once unfolded must be held in tubular configuration by the user holding the handling
15 lugs relatively close one towards the other. This kind of operation requires careful handling of the unitary device by the user and is a source of discomfort and urine leakages which can result in the user's clothing being soiled.

Moreover, the larger end of the known urinary devices is ill shaped and fails to
20 assure liquid-tight adherence to the female user's body.

An object of the present invention is to provide a disposable funnel-like urinary device which makes it possible for a woman to urinate in a standing position without facing any discomfort or hygienic problem.

Another object of the present invention is to provide a disposable funnel-like
25 urinary device which is quite easy and simple to use and can be produced at competitive costs.

These and other objects that will appear more clearly below are achieved by a disposable funnel-like urinary device comprising a punched sheet of a relatively flexible, although stiff to such an extent as to keep its shape, material including:
30 - a first and a second pair of substantially identical normally flat sections sequentially united to one another along an intermediate longitudinal fold line and two side fold lines, respectively, extending convergent towards an apex point on an

Confirmation copy

extension of said intermediate fold line,

- said first pair of flat sections having one larger rear end thereof curved and its other smaller front end straight but inclined with respect to, and converging towards, said intermediate fold line,
- 5 - said second pair of flat sections having each a major portion of its outer margin substantially extending in a direction converging toward said apex point and a front portion in alignment with the front portion of its adjacent flat section of said first pair of flat sections, and an identical rear rounded flap foldable along a respective fold line extending inclined with respect to said intermediate fold line,
- 10 - one of said second pair of flat section comprising a relatively small side wing extending along at least a portion of its outer flat section of said second pair of flat sections, and
- securing means for fixing said side wing to said other flat section of said second pair of flat sections, to obtain a foldable funnel-like arrangement which in its erected
- 15 condition constitutes a tubular exhaust duct having a proximate anatomic major urine receiving end designed to be applied around a urinary tract of a standing female user and a distal smaller urine draining end.

Further features and advantages of the invention will better appear from the following detailed description of one presently preferred embodiment thereof

20 reference being made to the accompanying drawings, in which:

Figure 1 shows a lay-out of a punched paper sheet in its extended condition;

Figure 2 shows a perspective view of a funnel-like urinary device according to the invention in its erected condition ready for being used;

Figure 3 is a perspective view of the urinary device of Figure 2 in its fully folded

25 condition for packaging and storing purposes, and

Figure 4 is a perspective view of the urinary device in an intermediate condition while being erected from its fully folded condition.

With reference to the Figures listed above a funnel-like urinary device, generally indicated with 1, is obtained by folding a punched sheet 2 (Fig.2) made

30 of a suitable material which is relatively flexible but sufficiently stiff to regain its shape after a mild deformation, e.g. paper or thin card, and by joining together, such as by gluing, seaming or stitching, two end portions of the sheet 2.

More particularly, the punched sheet 2 has a first pair of substantially identical normally flat inner section 3 and 4 united along an intermediate longitudinal fold line 5, which constitutes the bottom line of the urinary device when erected and is thus V-shaped in cross section. Each flat section 3, 4 has a larger curved rear end 6 and a smaller straight front end 7. The two front ends 7 are inclined with respect to the fold line 5 and converge towards a common point 8 on the fold line 5.

The punched sheet 2 also has a second pair of substantially identical normally flat outer sections 8 and 9 each united to a respective inner section along a respective side fold line 10, 11, which converge substantially towards an apex point on a front extension of the fold line 5.

Each outer section 8, 9 has a major portion 8a and 9a, respectively, of its outer margin extending in a direction also substantially converging towards said apex point on the fold line 5, and a front margin 12 in alignment with its adjacent front portion 7. The outer sections 8, 9 also have an identical rear rounded flap 13, 14, respectively, which is foldable, along a respective straight fold line 13a, 14a extending inclined with respect to the fold lines 5, 10, 11 and margin portions 8a, 9a.

One of the outer section, e.g. section 8, comprises a relatively small side wing 15 extending along the margin 8a which is also a fold line thereof. The side wing 15 is arranged to be secured by any suitable securing means, e.g. by gluing, seam, stapling or hot welding, to a corresponding marginal area of the outer section 9 (Figure 2), so as to obtain a foldable funnel-line arrangement which in its erected condition constitutes a tubular exhaust duct having a proximate or rear end which has a substantially anatomic shape and is arranged to be applied around a urinary tract of a standing female user to receive urine therefrom, and a distal or front end designed to drain the urine in the duct away from the user.

Preferably, a urinary device 1 can be folded in a collapsed condition for packaging and storing purposes as shown in Figs. 3 and 4, i.e. the flaps 13 and 14 and their respective outer sections 8 and 9 are folded along fold lines 10 and 11 so as to extend inside the inner sections 3 and 4. Moreover, the urinary device 1 thus collapsed can be folded around a transverse fold line 16, so as to be reduced to a flat trapezoidal configuration of reduced overall dimensions.

CLAIMS

1. A disposable funnel-like urinary device comprising a punched sheet (1) of a relatively flexible, although stiff to such an extent as to keep its shape, paper material including:
- 5 - a first and a second pair of substantially identical normally flat sections (3,4; 8,9) sequentially united to one another, respectively, along an intermediate longitudinal fold line (5) and two side fold lines (10,11) extending convergent towards an apex point on an extension of said intermediate fold line (5), characterized in that
 - said first pair of flat sections (3,4) has one larger rear end (6) thereof curved and
10 its other smaller front end (7) straight but inclined with respect to, and converging towards, said intermediate fold line (5),
 - said second pair of flat sections (8,9) has each a major portion of its outer margin (8a, 9a) extending in a direction substantially converging toward said apex point and a front portion (12) in alignment with the front portion (7) of its adjacent flat
15 section of said first pair of flat sections (3,4) , and an identical rear rounded flap (13,14) foldable along a respective fold line (13a, 14a) extending inclined with respect to said intermediate fold line (5),
 - one (8) of said second pair of flat section comprising a relatively small side wing (15) extending along at least a portion (8a) of its outer flat section of said second
20 pair of flat sections, and
 - securing means for fixing said side wing to said other flat section of said second pair of flat sections, to obtain a foldable funnel-like arrangement (1) which in its erected condition constitutes a tubular exhaust duct having a major proximate anatomic urine receiving end designed to be applied around a urinary tract of a
25 standing female user and a smaller distal urine draining end.
2. A device as claimed in claim 1, characterized in that said foldable funnel-like arrangement (1) is substantially V-shaped in cross-section when in its erected condition.
3. A device as claimed in claim 1 or 2, characterized in that it comprises a
30 transverse fold line (16) along with said funnel-like arrangement (1) in its collapsed condition can be doubled to be reduced to minimum overall dimensions.

1/1

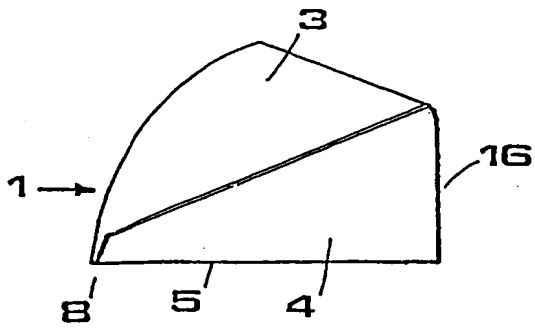
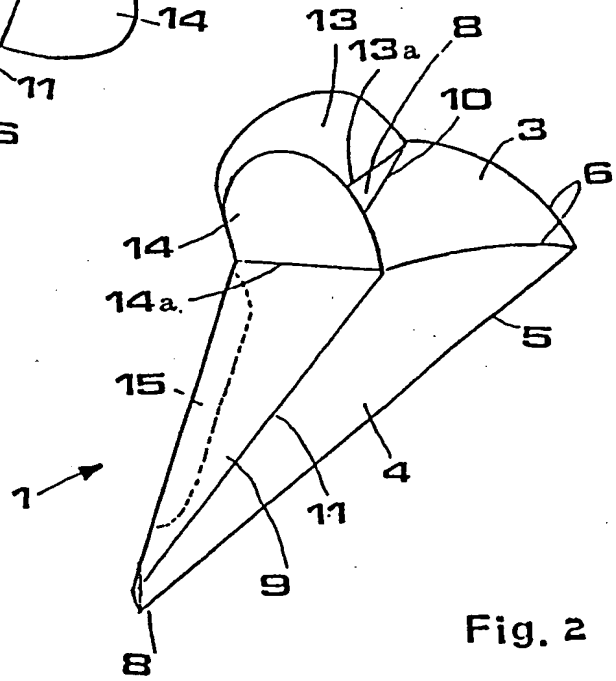
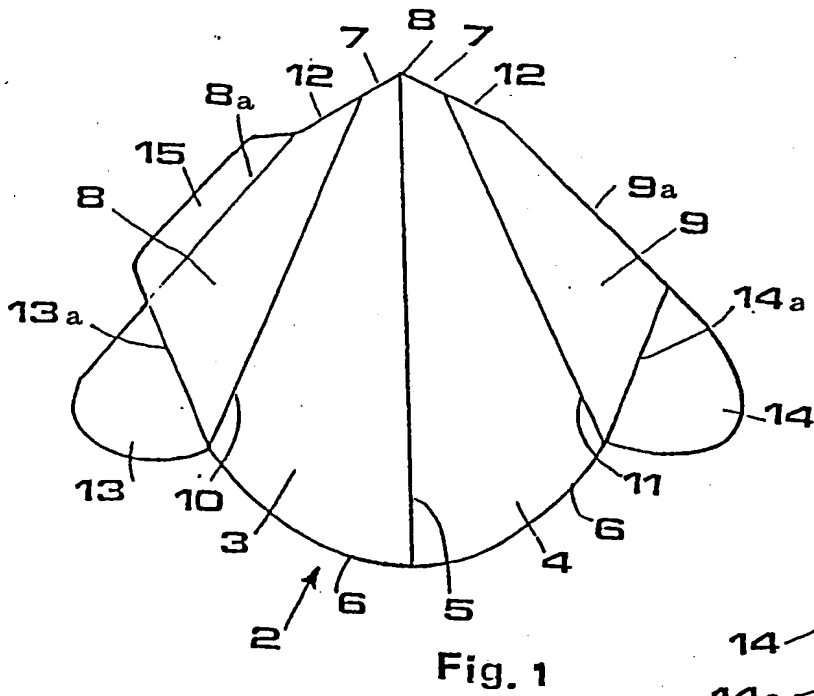


Fig. 3

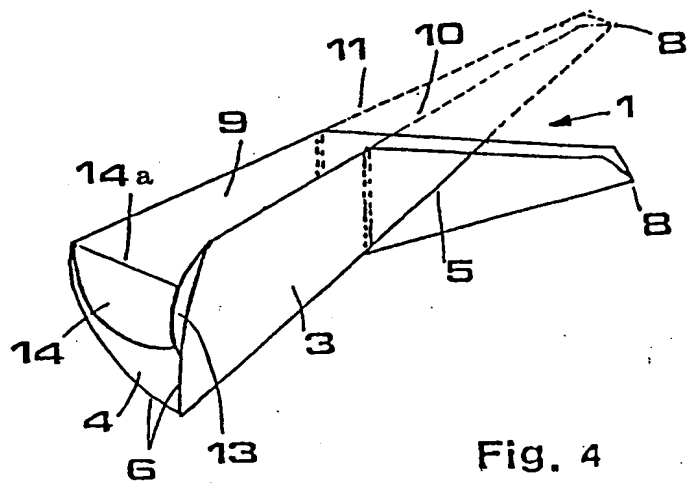


Fig. 4

INTERNATIONAL SEARCH REPORT

Int. Application No
PCT/IB 99/01517

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61F5/455

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61F A47K A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 681 573 A (MCGOVERN LORE H ET AL) 21 July 1987 (1987-07-21)	1,2
Y	column 5, line 9 - line 37; figures 5-7	3
Y	US 5 333 330 A (MURTAGH DANIEL S) 2 August 1994 (1994-08-02) figure 4	3
A	EP 0 158 602 A (CONSAGRA PIETRO) 16 October 1985 (1985-10-16) abstract	1
A	US 2 878 486 A (BARTLETT ET AL) 24 March 1959 (1959-03-24)	
A	US 4 023 216 A (LI LAURIE RHEA) 17 May 1977 (1977-05-17)	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

17 December 1999

Date of mailing of the international search report

11/01/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3018

Authorized officer

Sánchez y Sánchez, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. Patent Application No.

PCT/IB 99/01517

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4681573 A	21-07-1987	AU 6447786 A EP 0226277 A JP 62122621 A	30-04-1987 24-06-1987 03-06-1987
US 5333330 A	02-08-1994	NONE	
EP 0158602 A	16-10-1985	NONE	
US 2878486 A	24-03-1959	NONE	
US 4023216 A	17-05-1977	CA 1055800 A CH 591238 A DE 2540612 A GB 1524838 A NL 7512545 A	05-06-1979 15-09-1977 12-08-1976 13-09-1978 31-05-1976